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GB 1436548 A DE 004338834 A US 4679261 A

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## (54) Bed frame with expandable end section to increase length

(57) A bed frame 1 having an expandable end section 6 attached to the frame but moveable relative thereto to vary the effective length of the bed, said end section being supported on extending rails 7 which reside in complementary bores formed in one end of the frame and/or the opposed end of the frame-end section, and threaded screws 9 or lugs are provided to secure the extendable end section to the main frame in one of a plurality of selected positions.

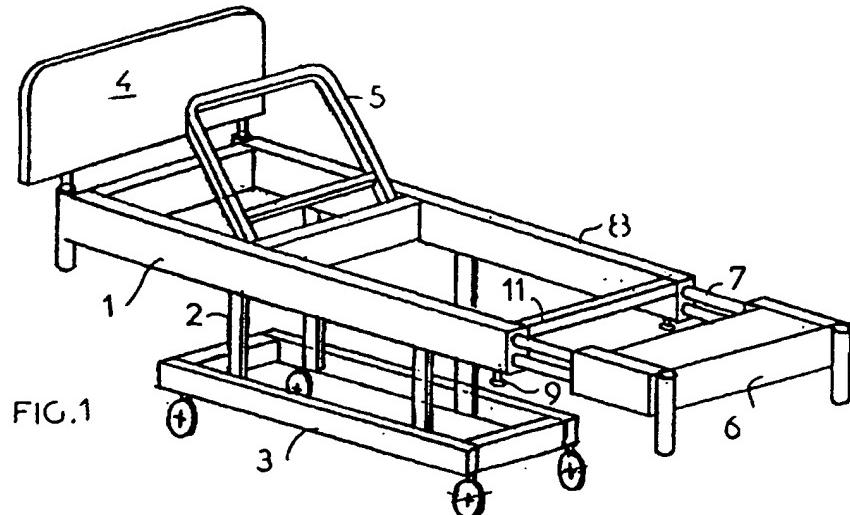
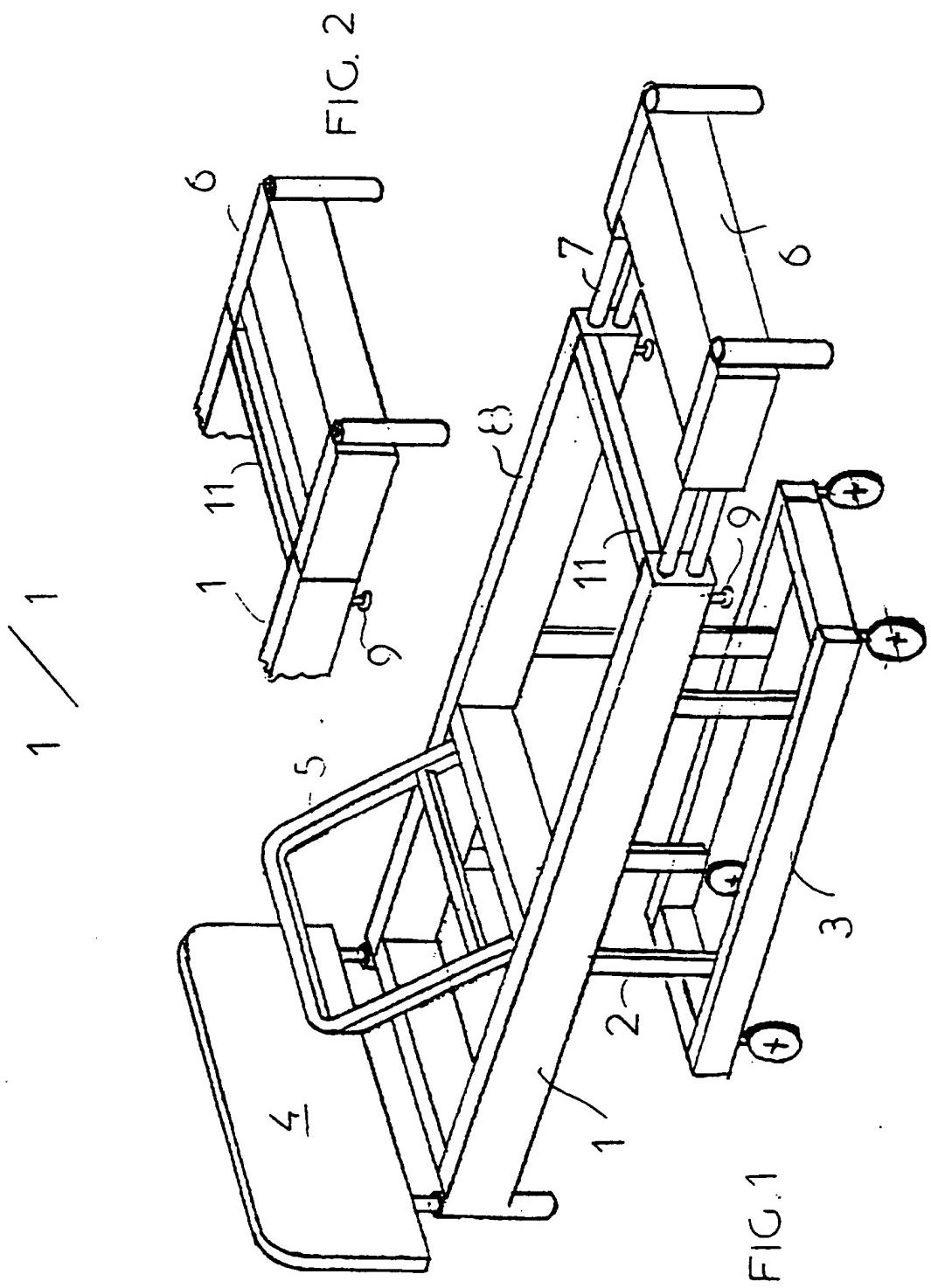


FIG.1

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**IMPROVEMENTS IN AND RELATING TO BEDS**

This invention relates to beds, especially beds for use in hospitals, hotels and other establishments in which beds are used sequentially by different members of the public.

It is sometimes the case that a standard bed has insufficient length to accommodate in comfort persons of above average height. This invention sets out to provide a bed whose length can readily be adjusted to suit the height requirements of a greater proportion of the general public.

According to the present invention there is provided a bed having a frame which includes an end section which is attached to the frame but is moveable relative thereto to vary the effective length of the bed, the end section being supported on rails which are secured to or reside in complementary bores formed in one end of the frame and/or the opposed end of the frame end-section, and means operable to secure the extendable end section to the main frame in one of a plurality of selected positions.

Two rails may extend rearwardly from each side member of the frame, one above the other, the extendable end section including suitably shaped bores for receiving greater or lesser lengths of rails. Alternatively, the rails may extend forwardly from the extendable end-section, the frame including suitably shaped bores for receiving greater or lesser lengths of rails. In a still further arrangement, the rails are

selectively insertable or removable from complementary bores formed on both the frame and the extendable end-section.

The bed frame may be supported on a wheel mounted chassis such that no part of the extendable end section makes contact with the floor on which the bed is positioned.

The securement means may comprise threaded screws or lugs movable into contact with one or more of the rails. The rails may have a series of apertures extending along their lengths into which the or each securement device may protrude.

The extendable end-section may include one or more rods, bars or the like extending towards the opposed end surface of the frame and passing through bores formed in a cross-piece of the frame, these rods, bars or the like providing support for a mattress positioned on the frame in any space between the frame and the extendable end piece in the extended position of the bed.

One or more mattress pieces may be provided to fill any space in the bed mattress when the bed is in its extended position.

The invention will now be described by way of example only with reference to the accompanying diagrammatic drawings in which:-

Figure 1 is a perspective view of a bed in accordance with the invention in its extended position; and

Figure 2 is a detail of the bed shown in Figure 1 with the extendable frame section in its unextended position.

The bed illustrated in the drawings is a conventional hospital bed

and comprises a frame 1 supported by upstanding legs 2 on a wheel mounted chassis 3. The main frame has a head rest 4 and a pivotal pillow support 5 movable between positions in which it lies flat within the frame and the raised position shown in Figure 1.

Extending rearwardly from the frame 1 is an extendable frame section 6. This frame section has forwardly extending rails 7 which pass into bores formed in the side members 8 of the main frame. These rails and bores enable the extendable frame section 6 to move over the rails towards and away from the frame 1. The extendable frame section 6 is shown in its extended position in Figure 1 and in its unextended position in Figure 2. The extendable frame section is secured in place by fixing lugs or screws 9 which either make contact with the lower rails or extend into apertures formed in these lower rails.

The extendable frame section 6 may have secured to its end surface closest to the frame 1 and between the rails 7 one or more forwardly extending rods, bars or slats which pass through and are supported by a cross-piece 11 of the frame 1. These rods, bars or slats provide support in the space left between the frame 1 and the frame section 6 when the bed is in its extended position.

In an alternative illustrated embodiment, the rails 7 are carried by the end-section 6, the frame 1 being formed with complementary bores to receive the rails. In a further unillustrated embodiment, the rails 7 are selectively insertable or removable from complementary bores formed in both the frame 1 and the extendable end-section 6.

Mattress pieces may be provided to fill any space in the bed mattress when the bed is in its extended position.

It will be appreciated that the overall length of beds in accordance

with this invention can be varied to suit the height of a person about to use the bed simply by moving the extendable section 6 towards or away from the main section 1 on the rails.

It will be appreciated that the foregoing is merely exemplary of beds in accordance with the invention and that modifications can readily be made thereto without departing from the true scope of the invention.

CLAIMS

1. A bed having a frame which includes an end section which is attached to the frame but is moveable relative thereto to vary the effective length of the bed, the end section being supported on rails which are secured to or reside in complementary bores formed in one end of the frame and/or the opposed end of the frame end-section, and means operable to secure the extendable end section to the main frame in one of a plurality of selected positions.
2. A bed as claimed in Claim 1 wherein two rails extend rearwardly from each side member of the frame, one above the other, the extendable end section including suitably shaped bores for receiving greater or lesser lengths of rails.
3. A bed as claimed in Claim 1 wherein the rails extend forwardly from the extendable end-section, the frame including suitably shaped bores for receiving greater or lesser lengths of rails.
4. A bed as claimed in Claim 1 wherein the rails are selectively insertable or removable from complementary bores formed on both the frame and the extendable end-section.
5. A bed as claimed in any one of Claims 1 to 4 wherein the bed frame is supported on a wheel mounted chassis such that no part of the extendable end section makes contact with the floor on which the bed is positioned.
6. A bed as claimed in any one of Claims 1 to 5 wherein the securement means comprises threaded screws or lugs movable into contact with one or more of the rails.

7. A bed as claimed in any one of Claims 1 to 6 wherein the rails have a series of apertures extending along their lengths into which the or each securement device may protrude.
8. A bed as claimed in any one of Claims 1 to 7 wherein the extendable end-section includes one or elongate members which extend towards the opposed end surface of the frame and pass through bores formed in a cross-piece of the frame, these members providing support for a mattress positioned on the frame in any space between the frame and the extendable end piece in the extended position of the bed.
9. A bed substantially as herein described and as described in Figures 1 and 2 of the accompanying drawings.



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**Patents Act 1977**  
**Search Report under Section 17**

**Databases searched:**

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.O): A4L LBMA

Int Cl (Ed.6): A47C 19/04  
A47D 7/01

Other: Online, WPI

**Documents considered to be relevant:**

| Category | Identity of document and relevant passage |   | Relevant to claims |
|----------|---|---|--------------------|
| A        | GB1436548                                 | (MATBURN) - See whole document, esp. page 1, lines 11-17.             |                    |
| X        | US4679261                                 | (STANLEY) - See whole document, esp column 2, lines 5-21, and Fig. 1. | 1,3,6-8 at least.  |
| X        | DE4338834                                 | (POMAFORM GmbH) - See whole document, esp ref. 10 of Fig. 7.          | 1 at least.        |

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|---|---|---|--|
| X | Document indicating lack of novelty or inventive step   | A | Document indicating technological background and/or state of the art.  |
| Y | Document indicating lack of inventive step if combined with one or more other documents of same category. | P | Document published on or after the declared priority date but before the filing date of this invention.          |
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